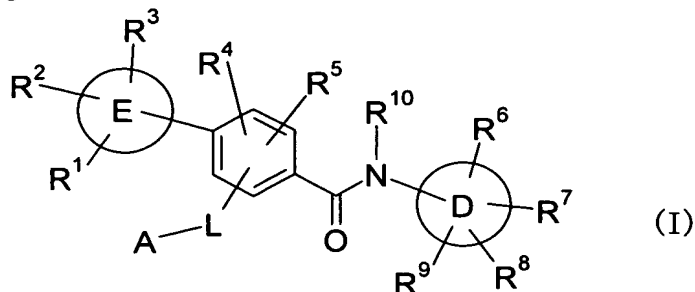
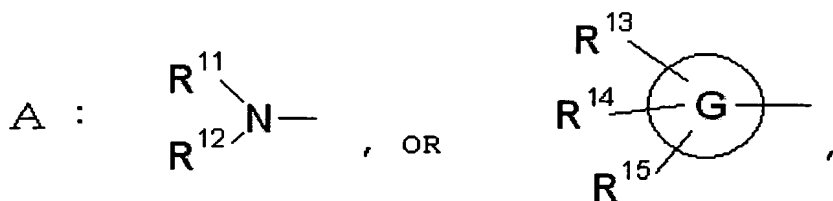


# Claims

1. A benzamide derivative represented by the following general formula (I):



wherein the symbols have the following meanings:



L: a lower alkylene,

D ring and E ring: the same or different, a monocyclic or bicyclic hydrocarbon ring, or a 5- to 12-membered monocyclic or bicyclic heteroaromatic ring containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O,

G ring: a 4- to 12-membered monocyclic or bicyclic

heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O,

R<sup>1</sup> to R<sup>9</sup>: the same or different, a hydrogen atom, a halogen atom, a lower alkyl, a halogen-substituted lower

alkyl, -OH, -SH, -O-lower alkyl, -O-lower alkyl-NH-lower alkyl, -O-lower alkyl-N(lower alkyl)<sub>2</sub>, =O, -NH<sub>2</sub>, -NH-lower alkyl, -N(lower alkyl)<sub>2</sub>, -S-lower alkyl, -SO-lower alkyl, -SO<sub>2</sub>-lower alkyl, -CN, -COOH, -C(=O)-O-lower alkyl, -C(=O)-NH<sub>2</sub>, -C(=O)-NH-lower alkyl, -C(=O)-N(lower alkyl)<sub>2</sub>, -NH-C(=O)-O-lower alkyl, -NH-SO<sub>2</sub>-lower alkyl, -SO<sub>2</sub>-NH<sub>2</sub>, -SO<sub>2</sub>-NH-lower alkyl, -C(=O)-lower alkyl, -NO<sub>2</sub> or a nitrogen-containing saturated heterocycle,

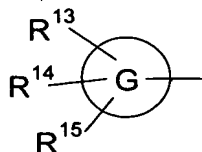
R<sup>10</sup>: a hydrogen atom or a lower alkyl,

10 R<sup>11</sup> to R<sup>15</sup>: the same or different, a hydrogen atom, a halogen atom, a lower alkyl, a halogen-substituted lower alkyl, -OH, -O-lower alkyl, -S-lower alkyl, -SO-lower alkyl, -SO<sub>2</sub>-lower alkyl, =O, -C(=O)H, -C(=O)-lower alkyl, -COOH, -CN, -NH<sub>2</sub>, -NH-lower alkyl, -N(lower alkyl)<sub>2</sub>, -C(=O)-NH<sub>2</sub>, -C(=O)-NH-lower alkyl, -C(=O)-N(lower alkyl)<sub>2</sub>, -C(=O)-aryl, -C(=O)-NH-aryl, -NH-C(=O)-lower alkyl, -NH-C(=O)-aryl, -NH-SO<sub>2</sub>-lower alkyl, -N(lower alkyl)-SO<sub>2</sub>-lower alkyl, -lower alkylene-NH-SO<sub>2</sub>-lower alkyl, -lower alkylene-NH-SO<sub>2</sub>-aryl, -C(=O)-O-lower alkyl, -lower alkylene-OH, -lower alkylene-C(=O)-NH-lower alkyl, -lower alkylene-C(=O)-N(lower alkyl)<sub>2</sub>, -lower alkylene-C(=O)-NH<sub>2</sub>, -lower alkylene-C(=O)-OH, -lower alkylene-O-lower alkyl, -lower alkylene-S-lower alkyl, -lower alkylene-O-C(=O)-lower alkyl, -lower alkylene-NH-lower alkyl, -lower alkylene-N(lower alkyl)<sub>2</sub>, -lower alkylene-aryl, a cycloalkyl, an aryl, -(4- to 12-membered monocyclic or

bicyclic heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O), -O-(4- to 12-membered monocyclic or bicyclic heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O), -lower alkylene-(4- to 12-membered monocyclic or bicyclic heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O), -C(=O)-(4- to 12-membered monocyclic or bicyclic heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O), -lower alkylene-N(lower alkyl)-(4- to 12-membered monocyclic or bicyclic heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O), or -C(=O)-NH-(4- to 12-membered monocyclic or bicyclic heterocycle containing 1 to 4 atoms of one or more kinds of heteroatoms selected from the group consisting of N, S, and O), and the above monocyclic or bicyclic heterocycle may be substituted by halogen atom(s), lower alkyl(s), -O-lower alkyl, or -OH, or a salt thereof.

2. The compound according to claim 1, wherein the ring represented by E in the above formula (I) is a benzene or thiophene ring.

5 3. The compound according to claim 2, wherein the group represented by A in the above formula (I) is the following formula:



10 wherein the G ring and R<sup>13</sup> to R<sup>15</sup> have the same meanings as in the above formula (I).

15 4. The compound according to claim 3, wherein the ring represented by G in the above formula (I) is a nitrogen-containing saturated heterocycle and the ring nitrogen atom is bonded to L.

20 5. The compound according to claim 3, wherein the ring represented by G in the above formula (I) is a ring selected from morpholine, piperidine, or pyrrolidine and the ring nitrogen atom of the ring group is bonded to L.

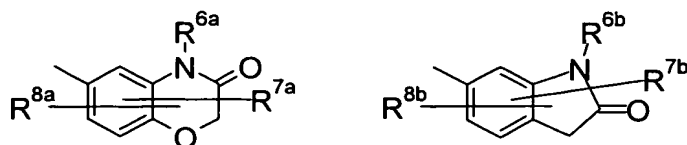
6. The compound according to claim 3, wherein the ring represented by D in the above formula (I) is a ring

selected from benzothiazole, quinoline, isoquinoline, indoline, tetrahydroquinoline, tetrahydroisoquinoline, 3,4-dihydro-2H-1,4-benzoxazine, dihydroquinoline, and dihydroisoquinoline.

5

7. The compound according to claim 3, wherein the ring represented by D in the above formula (I) together with the groups represented by R<sup>6</sup> to R<sup>9</sup> to be bonded thereto form a group selected from the following formulae:

10

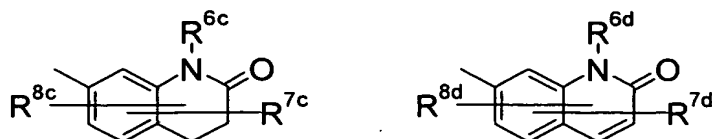


wherein the symbols have the following meanings:

R<sup>6a</sup> and R<sup>6b</sup>: the same or different, a hydrogen atom, a lower alkyl, or a halogen-substituted lower alkyl, and

15 R<sup>7a</sup>, R<sup>8a</sup>, R<sup>7b</sup>, and R<sup>8b</sup>: the same or different, a hydrogen atom, a halogen atom, a lower alkyl, or a halogen-substituted lower alkyl.

20 8. The compound according to claim 3, wherein the ring represented by D in the above formula (I) together with the groups represented by R<sup>6</sup> to R<sup>9</sup> to be bonded thereto form a group selected from the following formulae:

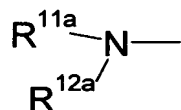


wherein the symbols have the following meanings:

$R^{6c}$  and  $R^{6d}$ : the same or different, a hydrogen atom, a lower alkyl, or a halogen-substituted lower alkyl, and

5  $R^{7c}$ ,  $R^{8c}$ ,  $R^{7d}$ , and  $R^{8d}$ : the same or different, a hydrogen atom, a halogen atom, a lower alkyl, or a halogen-substituted lower alkyl.

9. The compound according to claim 2, wherein the  
10 group represented by A in the above formula (I) is the following formula:



wherein the symbols have the following meanings:

15  $R^{11a}$  and  $R^{12a}$ : the same or different, a hydrogen atom, a lower alkyl, a halogen-substituted lower alkyl, -O-lower alkyl, -SO<sub>2</sub>-lower alkyl, -C(=O)H, -C(=O)-lower alkyl, -CN, -NH<sub>2</sub>, -NH-lower alkyl, -N(lower alkyl)<sub>2</sub>, -C(=O)-NH<sub>2</sub>, -C(=O)-NH-lower alkyl, -C(=O)-N(lower alkyl)<sub>2</sub>, -C(=O)-  
20 aryl, -C(=O)-NH-aryl, -NH-C(=O)-lower alkyl, -NH-C(=O)-aryl, -NH-SO<sub>2</sub>-lower alkyl, -N(lower alkyl)-SO<sub>2</sub>-lower alkyl, -lower alkylene-NH-SO<sub>2</sub>-lower alkyl, -lower alkylene-NH-SO<sub>2</sub>-aryl, -C(=O)-O-lower alkyl, -lower alkylene-OH, -lower

alkylene-C(=O)-NH-lower alkyl, -lower alkylene-C(=O)-  
 N(lower alkyl)<sub>2</sub>, -lower alkylene-C(=O)-NH<sub>2</sub>, -lower  
 alkylene-C(=O)-OH, -lower alkylene-O-lower alkyl, -lower  
 alkylene-S-lower alkyl, -lower alkylene-O-C(=O)-lower  
 5 alkyl, -lower alkylene-NH-lower alkyl, -lower alkylene-  
 N(lower alkyl)<sub>2</sub>, -lower alkylene-aryl, a cycloalkyl, an  
 aryl, -(4- to 12-membered monocyclic or bicyclic  
 heterocycle containing 1 to 4 atoms of one or more kinds  
 of heteroatoms selected from the group consisting of N, S,  
 10 and O), -O-(4- to 12-membered monocyclic or bicyclic  
 heterocycle containing 1 to 4 atoms of one or more kinds  
 of heteroatoms selected from the group consisting of N, S,  
 and O), -lower alkylene-(4- to 12-membered monocyclic or  
 bicyclic heterocycle containing 1 to 4 atoms of one or  
 15 more kinds of heteroatoms selected from the group  
 consisting of N, S, and O), -C(=O)-(4- to 12-membered  
 monocyclic or bicyclic heterocycle containing 1 to 4 atoms  
 of one or more kinds of heteroatoms selected from the  
 group consisting of N, S, and O), -lower alkylene-N(lower  
 20 alkyl)-(4- to 12-membered monocyclic or bicyclic  
 heterocycle containing 1 to 4 atoms of one or more kinds  
 of heteroatoms selected from the group consisting of N, S,  
 and O), or -C(=O)-NH-(4- to 12-membered monocyclic or  
 bicyclic heterocycle containing 1 to 4 atoms of one or  
 25 more kinds of heteroatoms selected from the group  
 consisting of N, S, and O), and

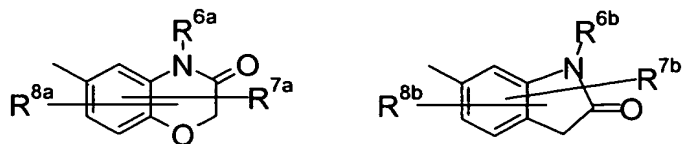
the above monocyclic or bicyclic heterocycle may be substituted by a halogen atom, a lower alkyl, -O-lower alkyl, or -OH.

5           10. The compound according to claim 9, wherein R<sup>11a</sup> is a lower alkyl and R<sup>12a</sup> is a group selected from -lower alkylene-O-lower alkyl, -lower alkylene-S-lower alkyl, -lower alkylene-NH-lower alkyl, -lower alkylene-N(lower alkyl)<sub>2</sub>, -lower alkylene-OH, -lower alkylene-C(=O)-NH-lower alkyl, -lower alkylene-C(=O)-N(lower alkyl)<sub>2</sub>, -lower alkylene-aryl, a cycloalkyl, an aryl, -(monocyclic or bicyclic heterocycle), and -lower alkylene-(monocyclic or bicyclic heterocycle).

15           11. The compound according to claim 9, wherein the ring represented by D in the above formula (I) is a ring selected from benzothiazole, quinoline, isoquinoline, indoline, tetrahydroquinoline, tetrahydroisoquinoline, 3,4-dihydro-2H-1,4-benzoxazine, dihydroquinoline, and 20 dihydroisoquinoline.

          12. The compound according to claim 9, wherein the ring represented by D in the above formula (I) together with the groups represented by R<sup>6</sup> to R<sup>9</sup> to be bonded 25 thereto form a group selected from the following formulae:

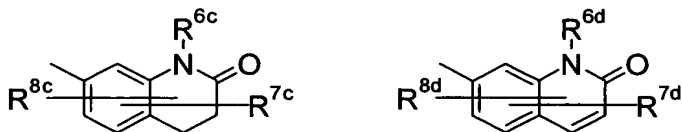




wherein the symbols have the following meanings:

$R^{6a}$  and  $R^{6b}$ : the same or different, a hydrogen atom, a lower alkyl, or a halogen-substituted lower alkyl, and  
 5  $R^{7a}$ ,  $R^{8a}$ ,  $R^{7b}$ , and  $R^{8b}$ : the same or different, a hydrogen atom, a halogen atom, a lower alkyl, or a halogen-substituted lower alkyl.

13. The compound according to claim 9, wherein the  
 10 ring represented by D in the above formula (I) together with the groups represented by  $R^6$  to  $R^9$  to be bonded thereto form a group selected from the following formulae:



15 wherein the symbols have the following meanings:

$R^{6c}$  and  $R^{6d}$ : the same or different, a hydrogen atom, a lower alkyl, or a halogen-substituted lower alkyl, and  
 $R^{7c}$ ,  $R^{8c}$ ,  $R^{7d}$ , and  $R^{8d}$ : the same or different, a hydrogen atom, a halogen atom, a lower alkyl, or a halogen-  
 20 substituted lower alkyl.

14. The compound according to claim 1 or a salt thereof, wherein the benzamide derivative represented by

the above formula (I) is at least one kind of compounds selected from the group consisting of *N*-1,3-benzothiazol-5-yl-2-([cyclohexyl(isopropyl)amino]methyl)biphenyl-4-carboxamide, *N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinolin-7-yl)-2-(piperidin-1-ylmethyl)biphenyl-4-carboxamide, *N*-(3,3-dimethyl-2-oxo-2,3-dihydro-1*H*-indol-6-yl)-2-(piperidin-1-ylmethyl)biphenyl-4-carboxamide, 2-([ethyl(2-hydroxy-2-methylpropyl)amino]methyl)-*N*-(2-methyl-3-oxo-3,4-dihydro-2*H*-1,4-benzoxazin-6-yl)biphenyl-4-carboxamide, *N*-(1-methyl-2-oxo-1,2-dihydroquinolin-7-yl)-2-(piperidin-1-ylmethyl)biphenyl-4-carboxamide, *N*-(3-methyl-2-oxo-1,2-dihydroquinolin-7-yl)-2-(piperidin-1-ylmethyl)biphenyl-4-carboxamide, *N*-(2,4-dimethyl-3-oxo-3,4-dihydro-2*H*-1,4-benzoxazin-6-yl)-2-(piperidin-1-ylmethyl)biphenyl-4-carboxamide, 2-([ethyl(tetrahydro-2*H*-pyran-4-yl)amino]methyl)-*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinolin-7-yl)biphenyl-4-carboxamide, *N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinolin-7-yl)-3-(piperidin-1-ylmethyl)-4-(2-thienyl)benzamide, 2-([ethyl(tetrahydro-2*H*-thiopyran-4-yl)amino]methyl)-*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinolin-7-yl)biphenyl-4-carboxamide, 2-([isobutyl(2-piperidin-1-ylethyl)amino]methyl)-*N*-(2-methyl-3-oxo-3,4-dihydro-2*H*-1,4-benzoxazin-6-yl)biphenyl-4-carboxamide, *N,N*-diethyl-4-[(4-([(1-methyl-2-oxo-1,2,3,4-tetrahydroquinolin-7-yl)amino]carbonyl)biphenyl-2-yl)methyl]morpholine-3-

carboxamide, and 2-[(4-methyl-1,3'-bipiperidin-1'-yl)methyl]-N-(2-methyl-3-oxo-3,4-dihydro-2H-1,4-benzoxazin-6-yl)biphenyl-4-carboxamide.

5           15. A pharmaceutical composition comprising a benzamide derivative represented by the general formula (I) according to claim 1 or a salt thereof and a pharmaceutically acceptable carrier.

10           16. The composition according to claim 15, which is a VR1 activation inhibitor.

            17. The composition according to claim 15, which is a preventive or therapeutic agent for pains.

15

            18. Use of a benzamide derivative represented by the general formula (I) according to claim 1 or a salt thereof for manufacturing a preventive or therapeutic agent for pains.

20

            19. A method for preventing or treating pain, which comprises administering an effective amount of a benzamide derivative represented by the general formula (I) according to claim 1 or a salt thereof, to a mammal.